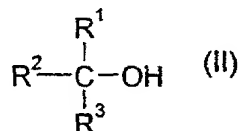


CLAIMS

1. A process for the preparation of 3-isochromanone which comprises contacting an o-xylene- $\alpha,\alpha'$ -dihalide with carbon monoxide, in the presence of a catalyst and a hindered amine base in a liquid medium comprising water and a tertiary alcohol.
2. A process according to claim 1 in which the o-xylene- $\alpha,\alpha'$ -dihalide is o-xylene- $\alpha,\alpha'$ -dichloride.
3. A process according to claim 1 or 2 in which the tertiary alcohol is an alcohol of formula (II):



in which  $\text{R}^1$ ,  $\text{R}^2$  and  $\text{R}^3$  are independently  $\text{C}_{1-8}$  alkyl, one or more of  $\text{R}^1$ ,  $\text{R}^2$  and  $\text{R}^3$  being optionally substituted with a phenyl ring or a hydroxyl group, the hydroxyl group being attached to a carbon atom which is itself directly attached to three other carbon atoms.

4. A process according to claim 3 in which the tertiary alcohol is tert-amyl alcohol or tert-butanol.
5. A process according to claim 3 or 4 in which the molar ratio of water:tertiary alcohol is in the range of 1:50 to 50:1.
6. A process according to claim 3 or 4 in which the molar ratio of water:o-xylene- $\alpha,\alpha'$ -dihalide is in the range of 100:1 to 1:1.
7. A process according to any one of the preceding claims in which the amine base is an amine of formula  $\text{R}^1\text{R}^2\text{R}^3\text{N}$  wherein  $\text{R}^1$ ,  $\text{R}^2$  and  $\text{R}^3$  are independently  $\text{C}_{1-10}$  alkyl,

C<sub>3-6</sub> cycloalkyl, aryl or aryl(C<sub>1-4</sub>)alkyl or wherein two or three of R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> join together with the nitrogen atom to which they are attached to form one, two or three, 5-, 6- or 7- membered alicyclic rings optionally fused and optionally containing a second ring nitrogen atom.

5

8. A process according to any one of the preceding claims in which the molar ratio of amine base:o-xylene- $\alpha,\alpha'$ -dihalide is in the range of 10:1 to 1:1.

10

9. A process according to any one of claims 1 to 7 in which an inorganic base is used in conjunction with the amine base, the total amount of base used being at least 1 mole per mole of o-xylene- $\alpha,\alpha'$ -dihalide.

15

10. A process according to any one of the preceding claims in which the catalyst is a palladium catalyst.

11. A process according to any one of the preceding claims in which the catalyst is present in the amount of 0.000001 to 0.5 mole equivalents of the o-xylene- $\alpha,\alpha'$ -dihalide.

20

12. A process according to claim 10 in which a triphenylphosphine ligand is used in combination with the palladium catalyst in the range of from 1 to 200 mole equivalents of phosphorous to palladium.

25

13. A process according to claim 12 in which the triphenylphosphine ligand and palladium catalyst are used in a preformed mixture.

14. A process according to any one of the preceding claims in which there is present a phase transfer catalyst.

30

15. A process according to any one of the preceding claims which is carried out at a temperature of from 20°C to 200°C.